



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,439	08/17/2006	Clement Woon	16455.6	9649
57137 7590 08/26/2010 WORKMAN NYDEGGER/Leica 1000 Eagle Gate Tower 60 East South Temple Salt Lake City, UT 84111			EXAMINER THIAW, CATHERINE B	
			ART UNIT 2458	PAPER NUMBER
			NOTIFICATION DATE 08/26/2010	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

Docketing@WNLAW.COM
WN_Status@WNLaw.com
bisraelsen@wnlaw.com

Office Action Summary	Application No. 10/595,439	Applicant(s) WOON ET AL.	
	Examiner CATHERINE THIAW	Art Unit 2458	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 29,32-36,38-52 and 55-70 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 29,32-36,38-52 and 55-70 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The present Office Action is responsive to a Request for Continued Examinations, received on 07/30/2010. Claims 29, 32-36, 38-52, 55-70 are pending.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 67 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 67 recites in line: "the current position coordinates", which lacks antecedent basis. For examination purposes, that limitation will be considered as : "current position coordinates". Correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 29, 32, 33, 43-52, 55 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamaru, U.S. 20020059320, in view of Karaoguz, U.S. 20040203931, and in further view of Yang-Huffman, U.S. 20030110252.

5. As to claim 29, Tamaru discloses **a method of managing information exchanges in an outdoor worksite** (paragraph [0002], lines 1-5) **with an office on said outdoor worksite, said outdoor worksite comprising any one of a civil engineering worksite, a landscaping worksite, a road or rail link construction worksite or a mining worksite** (paragraph [0265], lines 1-3: site office in Fig. 2A), **by networked items of apparatus which perform tasks in connection with said outdoor worksite** (paragraph [0056], lines 1-4) **and which receive and/or send data** (paragraph [0057], lines 1-3), **the method using an electronic data network comprising management means cooperating with a plurality of communications interfaces** (paragraph [0060], lines 1-6), **a given said networked item of apparatus having a data link with a specified communications interface** (Fig. 4: leader machine in phase 1 and communications links 6), **said networked items of apparatus** (paragraph [0276], lines 1-11: communications between construction machines via

Art Unit: 2458

radio communication links) **comprise networked mobile items of apparatus and networked static items of apparatus** (paragraph [0329], lines 1-7: constructions machines and sensors), **wherein all said networked items of apparatus are organized in a plurality of hierarchical levels according to a determined dependency relationship of the outdoor worksite** (Fig. 4 and paragraph [0265], lines 1-19: leader machines managing followers machines, which include monitor devices and sensors devices, as read in paragraph [0302], lines 1-8, are devices considered to be in a hierarchy), **and in that said management means which includes a processor and memory** (paragraph [0108], lines 1-2: the server has memory, and inherently has a processor too).

6. However, Tamaru does not teach **each networked mobile item of apparatus and networked static item of apparatus being capable of communication with any other networked mobile and static item of apparatus within communication range of its communications interface.**

7. Karaoguz discloses a plurality of wireless devices capable of communicating with each other (paragraph [0019], lines 9-17). A user of a device entering a geographic area activates a device locator to identify the available devices (paragraph [0024], lines 1-10). The user device determines its own position (paragraph [0042], lines 1-3) and determines the distance range of available devices and the coordinates of each

Art Unit: 2458

available device it can be in communication with within the distance range (paragraph [0044], lines 1-9).

8. It would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Tamaru by implementing the capabilities of mobile devices as taught by Karaoguz into the networked items of apparatus, the capabilities allowing the networked items of apparatus to communicate with each other in the network, and determine a distance range of communication with the other networked items. Knowing the communication range of other devices in the network would be efficient by having the devices communicate in the right frequency.

9. While the combination of Tamaru and Karaoguz discloses a database in the management server apparatus storing information about the work machines (paragraph [0068], lines 1-6, from Tamaru) at a worksite comprising **networked items of apparatus including the mobile items and static items of apparatus** (paragraph [0302], lines 1-8, from Tamaru: construction machines associated with sensors for determining vehicle conditions and positions) the combination of Tamaru and Karaoguz does not teach **the method comprising the following acts: storing a correspondence between each said networked item of apparatus and an address structure reflecting the hierarchical position of that networked item of apparatus in said determined dependency relationship of the civil engineering, landscaping, road or rail link construction, or mining worksite in a database;**

Art Unit: 2458

operating by converting a first address structure reflecting a hierarchical position of a selected earth moving mobile networked item of apparatus into a corresponding first device address for accessing said selected earth moving mobile networked item of apparatus on said electronic data network; using that first device address to establish a communications link with said selected earth moving mobile networked item of apparatus, via its communications interface, in response to a first call addressed with an address structure reflecting the hierarchical position of said selected earth moving mobile networked item of apparatus; operating by converting a second address structure reflecting the hierarchical position of a selected static networked item of apparatus into a corresponding second device address for accessing said selected static networked item of apparatus on said electronic data network; and using that second device address to establish a communications link with said static networked item of apparatus, via its communications interface, in response to a second call addressed with an address structure reflecting the hierarchical position of said selected static item of apparatus.

10. Yang-Huffman describes a method of collecting information from nodes in a network (paragraph [0013], lines 1-3). Networks nodes or data sources 110-1, 110-n include a SNMP agent and an internal database for storing management information (paragraph [0024], lines 1-13). A network topology application stores a snapshot of the network into a network map comprising a hierarchical structure of the network

Art Unit: 2458

(paragraph [0027], lines 1-9). The end nodes are indicated by hostnames that can be mapped to IP, and by symbol position, label, existence of parent, layout status ...

(paragraph [0027], lines 21-31). Information of the networks nodes is collected by a monitoring application (paragraph [0029], lines 1-22). SNMP is known to present information about a node of a network in a tree like structure, showing grouping of related objects in sets, and the dependency of objects (paragraph [0007], lines 1-18).

For instance, to access the process "sysuptime", which is a managed object in the network, a series of integer: 1.3.1.6.1.2.1.1.3 is used, representing

iso.org.dod.internet.mgmt.mib2.system.sysuptime. This representation shows the dependencies between the process, the system host, in the different levels of hierarchy within the organization. To access a node (system host) in response to a call using the hierarchical position of the node, means accessing the hostname or IP of that node, which is described with all the dependencies of the node with other nodes in the network; the IP address of the node is then used to establish communication with that node.

11. Although Yang-Huffman's invention is not directed to mobile or static devices in a worksite, it would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Tamaru and Karaoguz by the teachings of Yang-Huffman mapping the network devices constituted by the construction work machines (mobile or static), into a map file using SNMP, showing the dependency relationship between the works machines and storing the information in a database, in order to implement the storing of a correspondence between each said item of

Art Unit: 2458

apparatus and an address structure reflecting the hierarchical position of that item of apparatus and operating by converting said address structure reflecting the hierarchical position of said selected item of apparatus into a corresponding device address for accessing said selected item of apparatus on said electronic network and using the device address to establish communication with that device, as disclosed in claim 29.

Using SNMP to map a hierarchical network of devices, with end nodes described with their name/IP allow a descriptive view of the dependencies in a network and could help pinpoint root cause of nodes failures (paragraph [0028], lines 14-21, from Yang-Huffman). For instance, if device1 is mapped as node1.node2.node3.node4.device1 and device2 is mapped as node1.node2.node3.device2, if device2 is functioning OK, and device1 failing, we can deduct that node1.node2.node3 are functioning properly, that narrows the search of failure to node4 or device1. The method of Yang-Huffman can be used regardless of the functionality of a node of device in the network (earth moving device, static device).

12. As to claim 32, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claim 29, wherein said address structure is an IP (Internet Protocol) address (paragraph [0027], lines 20-24, from Yang-Huffman).

13. As to claim 33, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claim 29, wherein said address structure reflecting the hierarchical position of said selected item of apparatus (paragraph [0027], lines 1-15, from Yang-Huffman) is expressed as a directory-path (paragraph [0007], lines 1-18,

Art Unit: 2458

from Yang-Huffman: an object in SNMP consists of a sequence of integers, each representing a level in a tree structure, which is interpreted as a directory path).

14. As to claim 43, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claim 29, further comprising an act of securing communications by providing technical means for restricting access to the network to only authorized communications interfaces (paragraph [0334], lines 1-21, from Tamaru: access to network restricted to authorized constructions companies by means of password).

15. As to claim 44, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claim 29, further comprising an act of limiting data transmissions to between only those items of apparatus which are mutually compatible or expected to communicate with each other over said electronic network (paragraphs [0069], lines 1-7, [0070], lines 1-3 and Fig. 4, from Tamaru: communications between the work machines, the leader machine and the server is performed using communications interfaces 6 and 5 only).

16. As to claim 45, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claim 44, further comprising the act of providing a centralized monitoring and/or management of messages exchanged over said electronic network (paragraph [0060], lines 1-6, from Tamaru: the server apparatus collects information on work machines for management purposes and paragraph [0070],

Art Unit: 2458

lines 1-3: messages communicated to leader machines are transmitted to server apparatus).

17. As to claim 46, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claims 29, further comprising an act of providing a centralized management of static or dynamic identification allocation to the communications interfaces operating in the network (paragraph [0330], lines 1-13, from Tamaru: the work machines' vehicle ID is transmitted to server via communication link 5).

18. As to claim 47, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claim 29, further comprising an act of executing automatically a work plan programming said tasks of said items of apparatus automatically to conduct operations in said worksite (paragraph [0042], lines 1-5, from Tamaru), commands of said work plan designating selectively to said items of apparatus (paragraph [0325], lines 1-10, from Tamaru: phases 1-3 of work plan involves different machines and commands or functions as seen in Fig. 4) using said address structure reflecting the hierarchical position (Fig. 4 and paragraph [0265], lines 1-19, from Tamaru: leader machines managing followers machines, which include monitor devices and sensors devices, as read in paragraph [0302], lines 1-8, are devices considered to be in a hierarchy) of said selected item(s) of apparatus (paragraph [0027], lines 1-15, from Yang-Huffman).

Art Unit: 2458

19. As to claim 48, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claim 29, wherein said items of apparatus communicate to each other selectively, a call being made from one item of apparatus to another (paragraph [0326], lines 1-12, from Tamaru: the followers machine communicate with leader machine) using said address structure reflecting the hierarchical position of said selected item of apparatus (paragraph [0027], lines 1-25, from Yang-Huffman).

20. As to claim 49, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claim 29 for managing an automated worksite further comprising an act of sending commands to a contour changing apparatus and to an on-board apparatus through a defined protocol (paragraph [0326], lines 1-12, from Tamaru: during phase 1 of the work plan, crushers 34 or contour changing apparatus are operated and terminal device 31a on board the server apparatus transmits commands), the commands being elaborated from a predetermined model (paragraph [0334], lines 1-21, from Tamaru: parameters such as pavement thickness as predetermined and scheduled to be ordered).

21. As to claim 50, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claim 29 for managing an automated worksite in which physical and logical addressing of the communication interfaces is separated with a unique ID other than the IP address (paragraph [0330], lines 1-13, from Tamaru: vehicle ID is used for the transmission of data).

Art Unit: 2458

22. As to claim 51, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claim 50, wherein the physical and logical addressing includes multiple different IP and/or unique ID addressing (paragraph [0330], lines 1-13, from Tamaru: vehicle ID could be used in the physical and logical addressing by adding the vehicle ID to the directory path, for instance to distinguish crusher 34 and 35 of Fig. 4, from Tamaru).

23. As to claim 52, Tamaru discloses **a system for managing information exchanges in an outdoor worksite with an office on said outdoor worksite** (paragraph [0002], lines 1-5), **said outdoor worksite comprising any one of a civil engineering worksite, a landscaping worksite, a road or rail link construction worksite or a mining worksite** (paragraph [0265], lines 1-3: site office in Fig. 2A), **the networked items of apparatus including mobile and static items of apparatus** (paragraph [0329], lines 1-7: constructions machines and sensors) **comprising: an electronic communications network connecting items of apparatus** (Fig. 4: construction machines connected through network 6, in communications with management apparatus through link 5) **which perform tasks in connection with said outdoor worksite** (paragraph [0056], lines 1-4) **and which receive and/or send data** (paragraph [0057], lines 1-3), **the items of apparatus comprise the mobile items of apparatus and static items of apparatus,** (paragraph [0329], lines 1-7: constructions machines and sensors) **the electronic communications network comprising: management means cooperating with a plurality of communications interfaces**

Art Unit: 2458

(paragraph [0060], lines 1-6), **a given said item of apparatus having a data link with a specified said communications interface** (Fig. 4: leader machine in phase 1 and communications links 6), **wherein all said networked items of apparatus are organized in a plurality of hierarchical levels according to a determined dependency relationship of the outdoor worksite** (Fig. 4 and paragraph [0265], lines 1-19: leader machines managing followers machines, which include monitor devices and sensors devices, as read in paragraph [0302], lines 1-8, are devices considered to be in a hierarchy).

24. However, Tamaru does not teach **each networked item of apparatus being capable of communication with any other networked item of apparatus within communication range of its communications interface.**

25. Karaoguz discloses a plurality of wireless devices capable of communicating with each other (paragraph [0019], lines 9-17). A user of a device entering a geographic area activates a device locator to identify the available devices (paragraph [0024], lines 1-10). The user device determines its own position (paragraph [0042], lines 1-3) and determines the distance range of available devices and the coordinates of each available device it can be in communication with within the distance range (paragraph [0044], lines 1-9).

Art Unit: 2458

26. It would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Tamaru by implementing the capabilities of mobile devices as taught by Karaoguz into the networked items of apparatus, the capabilities allowing the networked items of apparatus to communicate with each other in the network, and determine a distance range of communication with the other networked items. Knowing the communication range of other devices in the network would be efficient by having the devices communicate in the right frequency.

27. While the combination of Tamaru and Karaoguz discloses a database in the management server apparatus storing information about the work machines (paragraph [0068], lines 1-6, from Tamaru) at a worksite comprising **networked items of apparatus including the mobile items and static items of apparatus** (paragraph [0302], lines 1-8, from Tamaru: construction machines associated with sensors for determining vehicle conditions and positions) the combination of Tamaru and Karaoguz does not teach: **means for storing a correspondence between both a selected earth moving mobile item of apparatus and a selected static item of apparatus and an address structure reflecting the hierarchical position of those items of apparatus in said determined dependency relationship of the outdoor worksite in a database;**
means for operating by converting said address structures reflecting the hierarchical positions of the selected items of apparatus into corresponding device addresses for accessing said selected items of apparatus on said

Art Unit: 2458

electronic network; and

means operating on the basis of said device addresses to establish

communications links with the selected items of apparatus, via their

communications interfaces, in response to a call addressed with an address

structure reflecting the hierarchical position of said selected items of apparatus.

28. Yang-Huffman describes a method of collecting information from nodes in a network (paragraph [0013], lines 1-3). Networks nodes or data sources 110-1, 110-n include a SNMP agent and an internal database for storing management information (paragraph [0024], lines 1-13). A network topology application stores a snapshot of the network into a network map comprising a hierarchical structure of the network (paragraph [0027], lines 1-9). The end nodes are indicated by hostnames that can be mapped to IP, and by symbol position, label, existence of parent, layout status ... (paragraph [0027], lines 21-31). Information of the networks nodes is collected by a monitoring application (paragraph [0029], lines 1-22). SNMP is known to present information about a node of a network in a tree like structure, showing grouping of related objects in sets, and the dependency of objects (paragraph [0007], lines 1-18). For instance, to access the process "sysuptime", which is a managed object in the network, a series of integer: 1.3.1.6.1.2.1.1.3 is used, representing iso.org.dod.internet.mgmt.mib2.system.sysuptime. This representation shows the dependencies between the process, the system host, in the different levels of hierarchy within the organization. To access a node (system host) in response to a call using the

Art Unit: 2458

hierarchical position of the node, means accessing the hostname or IP of that node, which is described with all the dependencies of the node with other nodes in the network; the IP address of the node is then used to establish communication with that node.

29. Although Yang-Huffman's invention is not directed to mobile or static devices in a worksite, it would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Tamaru and Karaoguz by the teachings of Yang-Huffman mapping the network devices constituted by the construction work machines (mobile or static), into a map file using SNMP, showing the dependency relationship between the works machines and storing the information in a database, in order to implement the storing of a correspondence between each said item of apparatus and an address structure reflecting the hierarchical position of that item of apparatus and operating by converting said address structure reflecting the hierarchical position of said selected item of apparatus into a corresponding device address for accessing said selected item of apparatus on said electronic network and using the device address to establish communication with that device, as disclosed in claim 52. Using SNMP to map a hierarchical network of devices, with end nodes described with their name/IP allow a descriptive view of the dependencies in a network and could help pinpoint root cause of nodes failures (paragraph [0028], lines 14-21, from Yang-Huffman). For instance, if device1 is mapped as node1.node2.node3.node4.device1 and device2 is mapped as node1.node2.node3.device2, if device2 is functioning OK, and device1 failing, we can deduct that node1.node2.node3 are functioning properly,

Art Unit: 2458

that narrows the search of failure to node4 or device1. The method of Yang-Huffman can be used regardless of the functionality of a node of device in the network (earth moving device, static device).

30. As to claim 55, it has the same substance as claim 32, and therefore is rejected on the same grounds as claim 32.

31. As to claim 56, it has the same substance as claim 33, and therefore is rejected on the same grounds as claim 33.

32. *Claims 34-36 and 57-59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamaru, Karaoguz and Yang-Huffman, in view of Soderberg et al., U.S. patent No. 6,519,626, hereinafter Soderberg.*

33. As to claim 34, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claim 29; however, the combination of Tamaru, Karaoguz and Yang-Huffman does not teach wherein said worksite is identified by a generic portion of a said address structure that comprises said address structure reflecting the hierarchical position of a selected item of apparatus.

34. Soderberg teaches converting a file system path to a URL (col. 2, lines 47-48) using a converting module and including the subdirectory structure of the file (col. 3, lines 13-30). Files with the following directory path: c:\directory \sub\file1, c:\directory \sub\file2 ... would be converted into http://www.domain.com:123/subdirectory/sub/file1 or http://www.domain.com:123/subdirectory/sub/file2 ...(col. 3, lines 24-54), in which

Art Unit: 2458

<http://www.domain.com:123/subdirectory/sub/>, can be considered as a fixed or generic part of different filenames, and correspond to a directory path to a common subdirectory.

35. It would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Tamaru, Karaoguz and Yang-Huffman with the teachings of Soderberg by converting directory pathnames or work machines into URLs. In the examples given above, <http://www.domain.com:123/subdirectory/sub/>, could correspond to a directory path: c:\directory \sub\, where “directory” is the construction project name (paragraph [0280], lines 1-8, from Tamaru), “sub” corresponds to the leader machines in phase 1 (see Fig. 4) and file1, file2 ... correspond to the followers machines 32-35 (Fig. 4, from Tamaru). As the same project involves different phases with different machines, the project name in the directory path could be considered as generic. Including a generic portion identifying a worksite in the directory-path would easily identify work machines used in that working site.

36. As to claim 35, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claim 29; however, the combination of Tamaru, Karaoguz and Yang-Huffman does not teach, wherein said address structure reflecting a hierarchical position of a said item of apparatus is a Uniform Resource Locator (URL), said URL having a directory-path portion corresponding to said address structure reflecting the hierarchical position of said selected item of apparatus.

Art Unit: 2458

37. Soderberg teaches converting a file system path to a URL (col. 2, lines 47-48) using a converting module and including the subdirectory structure of the file (col. 3, lines 13-30). Files with the following directory path: c:\directory \sub\file1, c:\directory \sub\file2 ... would be converted into <http://www.domain.com:123/subdirectory/sub/file1> or <http://www.domain.com:123/subdirectory/sub/file2> ...(col. 3, lines 24-54), in which <http://www.domain.com:123/subdirectory/sub/>, reflecting the hierarchical position of the files in the directory structure. Information on the files could be then accessed using a browser pointing to the URL.

38. It would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Tamaru, Karaoguz and Yang-Huffman with the teachings of Soderberg by converting directory pathnames or work machines into URLs. In the examples given above, <http://www.domain.com:123/subdirectory/sub/>, could correspond to a directory path: c:\directory \sub\, where “directory” is the construction project name (paragraph [0280], lines 1-8, from Tamaru), “sub” corresponds to the leader machines in phase 1 (see Fig. 4) and file1, file2 ... correspond to the followers machines 32-35 (Fig. 4, from Tamaru). The work machines mapped to URLs would allow an easy retrieval of information about the devices, using a web browser.

39. As to claim 36, the combination of Tamaru, Karaoguz Yang-Huffman and Soderberg discloses the method according to claim 35, wherein said uniform resource locator includes a hostname portion that is specific to said worksite (col.3, lines 44, from

Art Unit: 2458

Soderberg: www.domain.com is the domain name of the server including the files, it could correspond to the server apparatus 11 managing the working machines of Tamaru).

40. As to claim 57, it has the same substance as claim 34, and therefore is rejected on the same grounds as claim 34.

41. As to claim 58, it has the same substance as claim 35, and therefore is rejected on the same grounds as claim 35.

42. As to claim 59, it has the same substance as claim 36, and therefore is rejected on the same grounds as claim 36.

43. *Claims 38-42 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamaru, Karaoguz and Yang-Huffman, in view of Uhler et al., U.S. 20010039587, hereinafter, Uhler.*

44. As to claim 38, the combination of Tamaru, Karaoguz and Yang-Huffman discloses the method according to claim 29; however, the combination of Tamaru, Karaoguz and Yang-Huffman does not further teach an act of converting an address structure designating an item of apparatus to be accessed in accordance with a second hierarchy, the second hierarchy being different from the hierarchy used by the management means to organize the hierarchical levels according to said determined

Art Unit: 2458

dependency relationship, into the address in said electronic network of said designated item of apparatus.

45. Uhler discloses classes of objects defining particular instance of objects that can have subclasses (paragraph [0056], lines 1-7, and paragraph [0058], lines 1-10: Uhler converts or represents the objects representing the network devices into classes and subclasses including variables and methods).

46. It would have been obvious to a person of ordinary skills in the art at the time of the invention to combine the teachings of Tamaru, Karaoguz and Yang-Huffman with the teachings of Uhler creating hierarchy of classes for the objects in a network, in order to implement a method as disclosed in claim 38. For instance, a class defining attributes of devices such as mobile or static could be defined with a method using variation of coordinate of the devices with time, and further a subclass modifying the attribute of the class could be added as a responsive functionality, as disclosed in claim 39 and 42 . Such combination would have allowed defining instances of objects including variables and method specific to that class.

47. Claims 39 and 42 include the same substance as claim 38, and therefore are rejected using the same rationale.

48. As to claim 40, the combination of Tamaru, Karaoguz, Yang-Huffman and Uhler discloses 40 a method according to claim 39, wherein at least some items of mobile

Art Unit: 2458

apparatus perform the act of relaying messages over said electronic network (paragraph [0061], lines 1-7, from Tamaru: work machines transmit information to leader machines by communications means 6, as seen in Fig. 4).

49. As to claim 41, the combination of Tamaru, Karaoguz, Yang-Huffman and Uhler discloses the method according to claim 39 further comprising an act of determining a current position of items of mobile apparatus and the act of managing the distribution of messages within said electronic network according to the items' current position (paragraph [0298], lines 1-6, from Tamaru: proper location of a machine is determined in case accident, theft ...).

50. As to claim 60, the combination of Tamaru, Karaoguz and Yang-Huffman discloses a method according to claim 29; however, the combination of Tamaru, Karaoguz and Yang-Huffman does not teach assigning a separate class or subclass in the hierarchical position relation to the items of apparatus as a function of whether the items of apparatus are static or mobile on the worksite.

51. Uhler discloses classes of objects defining particular instance of objects that can have subclasses (paragraph [0056], lines 1-7, and paragraph [0058], lines 1-10: Uhler converts or represents the objects representing the network devices into classes and subclasses including variables and methods).

Art Unit: 2458

52. It would have been obvious to a person of ordinary skills in the art at the time of the invention to combine the teachings of Tamaru, Karaoguz and Yang-Huffman with the teachings of Uhler creating hierarchy of classes for the objects in a network, in order to implement a method as disclosed in claim 38. For instance, a class defining attributes of devices such as mobile or static could be defined with a method using variation of coordinate of the devices with time, and further a subclass modifying the attribute of the class could be added as a responsive functionality, as disclosed in claim 39 and 42 . Such combination would have allowed defining instances of objects including variables and method specific to that class.

53. *Claims 61-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamaru and Yang-Huffman, in view of Uhler.*

54. As to claim 61, Tamaru discloses **a method of managing information exchanges in an outdoor worksite with an office on said outdoor worksite** (paragraph [0002], lines1-5), **said outdoor worksite comprising any one of a civil engineering worksite, a landscaping worksite, a road or rail link construction worksite or a mining worksite** (paragraph [0265], lines 1-3: site office in Fig. 2A), **by networked items of apparatus which perform tasks in connection with said outdoor worksite** (paragraph [0056], lines 1-4) **and which receive and/or send data** (paragraph [0057], lines 1-3), **the method using an electronic data network comprising management means cooperating with a plurality of communications interfaces** (paragraph [0060], lines 1-6), **a given said networked item of apparatus**

Art Unit: 2458

having a data link with a specified communications interface (Fig. 4: leader machine in phase 1 and communications links 6), **said networked items of apparatus comprise mobile items and static items, wherein all said networked items of apparatus** (paragraph [0276], lines 1-11: communications between construction machines via radio communication links) **are organized in a plurality of hierarchical levels according to a determined dependency relationship of the outdoor worksite** (Fig. 4 and paragraph [0265], lines 1-19: leader machines managing followers machines, which include monitor devices and sensors devices, as read in paragraph [0302], lines 1-8, are devices considered to be in a hierarchy), **and in that said management means which includes a processor and memory** (paragraph [0108], lines 1-2: the server has memory, and inherently has a processor too).

55. While Tamaru discloses a database in the management server apparatus storing information about the work machines (paragraph [0068], lines 1-6) at a worksite, Tamaru does not teach: **the method comprising the following acts:**

storing a correspondence between each said networked item of apparatus and an address structure reflecting the hierarchical position of that networked item of apparatus in said determined dependency relationship of the civil engineering, landscaping, road or rail link construction, or mining worksite in a database, the networked items of apparatus including the mobile items and static items of apparatus;

operating by converting said address structure reflecting a first hierarchical position of a selected networked item of apparatus into a corresponding device

Art Unit: 2458

address for accessing said selected networked item of apparatus on said electronic data network;

using that device address to establish a communications link with said selected networked item of apparatus, via its communications interface, in response to a call addressed with an

address structure reflecting the hierarchical position of said selected networked item of apparatus.

56. Yang-Huffman describes a method of collecting information from nodes in a network (paragraph [0013], lines 1-3). Networks nodes or data sources 110-1, 110-n include a SNMP agent and an internal database for storing management information (paragraph [0024], lines 1-13). A network topology application stores a snapshot of the network into a network map comprising a hierarchical structure of the network (paragraph [0027], lines 1-9). The end nodes are indicated by hostnames that can be mapped to IP, and by symbol position, label, existence of parent, layout status ... (paragraph [0027], lines 21-31). Information of the networks nodes is collected by a monitoring application (paragraph [0029], lines 1-22). SNMP is known to present information about a node of a network in a tree like structure, showing grouping of related objects in sets, and the dependency of objects (paragraph [0007], lines 1-18). For instance, to access the process "sysuptime", which is a managed object in the network, a series of integer: 1.3.1.6.1.2.1.1.3 is used, representing iso.org.dod.internet.mgmt.mib2.system.sysuptime. This representation shows the dependencies between the process, the system host, in the different levels of hierarchy

Art Unit: 2458

within the organization. To access a node (system host) in response to a call using the hierarchical position of the node, means accessing the hostname or IP of that node, which is described with all the dependencies of the node with other nodes in the network; the IP address of the node is then used to establish communication with that node.

57. Although Yang-Huffman's invention is not directed to mobile or static devices in a worksite, it would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Tamaru by the teachings of Yang-Huffman mapping the network devices constituted by the construction work machines into a map file using SNMP, showing the dependency relationship between the works machines and storing the information in a database, in order to implement the storing of a correspondence between each said item of apparatus and an address structure reflecting the hierarchical position of that item of apparatus and operating by converting said address structure reflecting the hierarchical position of said selected item of apparatus into a corresponding device address for accessing said selected item of apparatus on said electronic network and using the device address to establish communication with that device, as disclosed in claim 61. Using SNMP to map a hierarchical network of devices, with end nodes described with their name/IP allow a descriptive view of the dependencies in a network and could help pinpoint root cause of nodes failures (paragraph [0028], lines 14-21, from Yang-Huffman). For instance, if device1 is mapped as node1.node2.node3.node4.device1 and device2 is mapped as node1.node2.node3.device2, if device2 is functioning OK, and device1 failing, we can

Art Unit: 2458

deduct that node1.node2.node3 are functioning properly, that narrows the search of failure to node4 or device1.

58. However, the combination of Tamaru and Yang-Huffman does not teach:

converting an address structure designating an item of apparatus to be accessed in accordance with a second hierarchy, the second hierarchy being different from the hierarchy used by the management means to organize the hierarchical levels according to said determined dependency relationship, into the address in said electronic network of said designated item of apparatus, wherein the second hierarchy defines a type of networked item of worksite apparatus.

59. Uhler discloses classes of objects defining particular instance of objects that can have subclasses (paragraph [0056], lines 1-7, and paragraph [0058], lines 1-10: Uhler converts or represents the objects representing the network devices into classes and subclasses including variables and methods).

60. It would have been obvious to a person of ordinary skills in the art at the time of the invention to combine the teachings of Tamaru and Yang-Huffman with the teachings of Uhler creating hierarchy of classes for the objects in a network, in order to implement a method as disclosed in claim 61. For instance, a class defining attributes of devices such as mobile or static could be defined with a method using variation of coordinate of the devices with time, and further a subclass modifying the attribute of the class could

Art Unit: 2458

be added as a responsive functionality, as disclosed in claim 39. Such combination would have allowed defining instances of objects including variables and method specific to that class.

61. As to claim 62, the combination of Tamaru, Yang-Huffman and Uhler discloses a method according to claim 61, wherein the first hierarchical position defines whether the selected networked item of apparatus is a static or mobile apparatus and the second hierarchy defines the type of mobile or static apparatus (paragraph [0056], lines 1-7, and paragraph [0058], lines 1-10, from Uhler: objects representing the network devices are classified into classes and subclasses including variables and methods, a class defining attributes of devices in a worksite such as mobile or static device could be defined).

62. As to claim 63, the combination of Tamaru, Yang-Huffman and Uhler discloses a method according to claim 62, wherein the second hierarchy includes definition of a bulldozer or mechanical shovel as the type of mobile apparatus (paragraph [0253], lines 1-6, from Tamaru: work machines are bulldozers, shovels, cranes ...).

63. As to claim 64, the combination of Tamaru, Yang-Huffman and Uhler discloses a method according to claim 61, further comprising converting an address structure designating an item of apparatus to be accessed in accordance with a third hierarchy, the third hierarchy being different from the first and second hierarchies (paragraph [0056], lines 1-7, and paragraph [0058], lines 1-10, from Uhler: objects representing the

Art Unit: 2458

network devices are classified into classes and subclasses including variables and methods, a class defining attributes of devices in a worksite such as functionality of a machine, for instance, earth moving machines, could be defined).

64. As to claim 65, the combination of Tamaru, Yang-Huffman and Uhler discloses a method according to claim 64, wherein the third hierarchical position defines different groups of devices under central command of the device belonging to the second hierarchy (the earth moving devices, for instance, defined as a class, would include devices belonging to mobile devices, which represent the second hierarchy).

65. *Claim 68 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tamaru, in view of Yang-Huffman.*

66. As to claim 68, Tamaru discloses **a method of managing information exchanges in an outdoor worksite** (paragraph [0002], lines 1-5) **with an office on said outdoor worksite, said outdoor worksite comprising any one of a civil engineering worksite, a landscaping worksite, a road or rail link construction worksite or a mining worksite** (paragraph [0265], lines 1-3: site office in Fig. 2A), **by networked items of apparatus which perform tasks in connection with said outdoor worksite** (paragraph [0056], lines 1-4) **and which receive and/or send data** (paragraph [0057], lines 1-3), **the method using an electronic data network comprising management means cooperating with a plurality of communications interfaces** (paragraph [0060], lines 1-6), **a given said networked item of apparatus**

Art Unit: 2458

having a data link with a specified communications interface (Fig. 4: leader machine in phase 1 and communications links 6), **said networked items of apparatus** (paragraph [0276], lines 1-11: communications between construction machines via radio communication links) **comprise mobile items of apparatus and static items of apparatus** (paragraph [0329], lines 1-7: constructions machines and sensors), **wherein all said networked items of apparatus are organized in a plurality of hierarchical levels according to a determined dependency relationship of the outdoor worksite** (Fig. 4 and paragraph [0265], lines 1-19: leader machines managing followers machines, which include monitor devices and sensors devices, as read in paragraph [0302], lines 1-8, are devices considered to be in a hierarchy), **and in that said management means which includes a processor and memory** (paragraph [0108], lines 1-2: the server has memory, and inherently has a processor too).

67. While Tamaru discloses a database in the management server apparatus storing information about the work machines (paragraph [0068], lines 1-6) at a worksite comprising **networked items of apparatus including the mobile items and static items of apparatus** (paragraph [0302], lines 1-8: construction machines associated with sensors for determining vehicle conditions and positions), Tamaru does not teach **the method comprising the following acts:**

storing a correspondence between each said networked item of apparatus and an address structure reflecting the hierarchical position of that networked item of apparatus in said determined dependency relationship of the civil engineering, landscaping, road or rail link construction, or mining worksite in a database;

operating by converting said address structure reflecting the hierarchical position of a selected networked item of apparatus into a corresponding device address for accessing said selected networked item of apparatus on said electronic data network, the device address including data identifying a context of the selected networked item of apparatus such that the selected networked item of apparatus is ascertainable from other networked items of apparatus on the worksite from the device address alone; and using that device address to establish a communications link with said selected networked item of apparatus, via its communications interface, in response to a call addressed with an address structure reflecting the hierarchical position of said selected networked item of apparatus.

68. Yang-Huffman describes a method of collecting information from nodes in a network (paragraph [0013], lines 1-3). Networks nodes or data sources 110-1, 110-n include a SNMP agent and an internal database for storing management information (paragraph [0024], lines 1-13). A network topology application stores a snapshot of the network into a network map comprising a hierarchical structure of the network (paragraph [0027], lines 1-9). The end nodes are indicated by hostnames that can be mapped to IP, and by symbol position, label, existence of parent, layout status ... (paragraph [0027], lines 21-31). Information of the networks nodes is collected by a monitoring application (paragraph [0029], lines 1-22). SNMP is known to present information about a node of a network in a tree like structure, showing grouping of

Art Unit: 2458

related objects in sets, and the dependency of objects (paragraph [0007], lines 1-18).

For instance, to access the process "sysuptime", which is a managed object in the

network, a series of integer: 1.3.1.6.1.2.1.1.3 is used, representing

iso.org.dod.internet.mgmt.mib2.system.sysuptime. This representation shows the

dependencies between the process, the system host, in the different levels of hierarchy

within the organization. To access a node (system host) in response to a call using the

hierarchical position of the node, means accessing the hostname or IP of that node,

which is described with all the dependencies of the node with other nodes in the

network; the IP address of the node is then used to establish communication with that

node.

69. Although Yang-Huffman's invention is not directed to mobile or static devices in a worksite, it would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Tamaru by the teachings of Yang-Huffman mapping the network devices constituted by the construction work machines (mobile or static), into a map file using SNMP, showing the dependency relationship between the works machines and storing the information in a database, in order to implement the storing of a correspondence between each said item of apparatus and an address structure reflecting the hierarchical position of that item of apparatus and operating by converting said address structure reflecting the hierarchical position of said selected item of apparatus into a corresponding device address for accessing said selected item of apparatus on said electronic network and using the device address to establish communication with that device, as disclosed in claim 68. The address of a

Art Unit: 2458

selected device shows the position of the selected device in the hierarchy with regard to the other devices in the hierarchy, that position is interpreted as a context of the selected device, and allow to ascertain the selected device from the other device in the hierarchy. Using SNMP to map a hierarchical network of devices, with end nodes described with their name/IP allow a descriptive view of the dependencies in a network and could help pinpoint root cause of nodes failures (paragraph [0028], lines 14-21, from Yang-Huffman). For instance, if device1 is mapped as node1.node2.node3.node4.device1 and device2 is mapped as node1.node2.node3.device2, if device2 is functioning OK, and device1 failing, we can deduct that node1.node2.node3 are functioning properly, that narrows the search of failure to node4 or device1. The method of Yang-Huffman can be used regardless of the functionality of a node of device in the network (earth moving device, static device).

70. *Claims 66 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamaru and Yang-Huffman, in view of Karaoguz.*

71. As to claim 66, Tamaru discloses **a method of managing information exchanges in an outdoor worksite** (paragraph [0002], lines1-5) **with an office on said outdoor worksite, said outdoor worksite comprising any one of a civil engineering worksite, a landscaping worksite, a road or rail link construction worksite or a mining worksite** (paragraph [0265], lines 1-3: site office in Fig. 2A), **by networked items of apparatus which perform tasks in connection with said**

Art Unit: 2458

outdoor worksite (paragraph [0056], lines 1-4) **and which receive and/or send data** (paragraph [0057], lines 1-3), **the method using an electronic data network comprising management means cooperating with a plurality of communications interfaces** (paragraph [0060], lines 1-6), **a given said networked item of apparatus having a data link with a specified communications interface** (Fig. 4: leader machine in phase 1 and communications links 6), **said networked items of apparatus** (paragraph [0276], lines 1-11: communications between construction machines via radio communication links) **comprise mobile items and static items** (paragraph [0329], lines 1-7: constructions machines and sensors), **wherein all said networked items of apparatus are organized in a plurality of hierarchical levels according to a determined dependency relationship of the outdoor worksite** (Fig. 4 and paragraph [0265], lines 1-19: leader machines managing followers machines, which include monitor devices and sensors devices, as read in paragraph [0302], lines 1-8, are devices considered to be in a hierarchy), **and in that said management means which includes a processor and memory** (paragraph [0108], lines 1-2: the server has memory, and inherently has a processor too).

72. While Tamaru discloses a database in the management server apparatus storing information about the work machines (paragraph [0068], lines 1-6) at a worksite comprising **networked items of apparatus including the mobile items and static items of apparatus** (paragraph [0302], lines 1-8: machines associated with sensors for determining vehicle conditions and positions), Tamaru does not teach **the method comprising the following acts:**

Art Unit: 2458

storing a correspondence between each said networked item of apparatus and an address structure reflecting the hierarchical position of that networked item of apparatus in said determined dependency relationship of the civil engineering, landscaping, road or rail link construction, or mining worksite in a database; operating by converting said address structure reflecting the hierarchical position of a selected networked item of apparatus into a corresponding device address for accessing said selected networked item of apparatus on said electronic data network; using that device address to establish a communications link with said selected networked item of apparatus, via its communications interface, in response to a call for position coordinates addressed with an address structure reflecting the hierarchical position of said selected networked item of apparatus.

73. Yang-Huffman describes a method of collecting information from nodes in a network (paragraph [0013], lines 1-3). Networks nodes or data sources 110-1, 110-n include a SNMP agent and an internal database for storing management information (paragraph [0024], lines 1-13). A network topology application stores a snapshot of the network into a network map comprising a hierarchical structure of the network (paragraph [0027], lines 1-9). The end nodes are indicated by hostnames that can be mapped to IP, and by symbol position, label, existence of parent, layout status ... (paragraph [0027], lines 21-31). Information of the networks nodes is collected by a monitoring application (paragraph [0029], lines 1-22). SNMP is known to present information about a node of a network in a tree like structure, showing grouping of

Art Unit: 2458

related objects in sets, and the dependency of objects (paragraph [0007], lines 1-18).

For instance, to access the process "sysuptime", which is a managed object in the

network, a series of integer: 1.3.1.6.1.2.1.1.3 is used, representing

iso.org.dod.internet.mgmt.mib2.system.sysuptime. This representation shows the

dependencies between the process, the system host, in the different levels of hierarchy

within the organization. To access a node (system host) in response to a call using the

hierarchical position of the node, means accessing the hostname or IP of that node,

which is described with all the dependencies of the node with other nodes in the

network; the IP address of the node is then used to establish communication with that

node.

74. Although Yang-Huffman's invention is not directed to mobile or static devices in a worksite, it would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Tamaru and Karaoguz by the teachings of Yang-Huffman mapping the network devices constituted by the construction work machines (mobile or static), into a map file using SNMP, showing the dependency relationship between the works machines and storing the information in a database, in order to implement the storing of a correspondence between each said item of apparatus and an address structure reflecting the hierarchical position of that item of apparatus and operating by converting said address structure reflecting the hierarchical position of said selected item of apparatus into a corresponding device address for accessing said selected item of apparatus on said electronic network and using the device address to establish communication with that device, as disclosed in claim 66.

Art Unit: 2458

Using SNMP to map a hierarchical network of devices, with end nodes described with their name/IP allow a descriptive view of the dependencies in a network and could help pinpoint root cause of nodes failures (paragraph [0028], lines 14-21, from Yang-Huffman). For instance, if device1 is mapped as node1.node2.node3.node4.device1 and device2 is mapped as node1.node2.node3.device2, if device2 is functioning OK, and device1 failing, we can deduct that node1.node2.node3 are functioning properly, that narrows the search of failure to node4 or device1. The method of Yang-Huffman can be used regardless of the functionality of a node of device in the network (earth moving device, static device).

75. However, the combination of Tamaru and Yang-Huffman does not teach: **receiving a position message from the selected networked item of apparatus the position message containing the coordinates of the selected networked item of apparatus and its identification information; and updating a position table with the coordinates of the selected networked item of apparatus.**

76. Karaoguz discloses a plurality of wireless devices capable of communicating with each other (paragraph [0019], lines 9-17). A user of a device entering a geographic area activates a device locator to identify the available devices (paragraph [0024], lines 1-10). The user device determines its own position (paragraph [0042], lines 1-3) and determines the distance range of available devices and the coordinates of each

Art Unit: 2458

available device it can be in communication with within the distance range (paragraph [0044], lines 1-9). The user device includes memory that can store information such as geographic map, coordinates, and lookup tables (paragraph [0048], lines 7-10).

77. It would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Tamaru and Yang-Huffman by implementing the capabilities of mobile devices as taught by Karaoguz into the networked items of apparatus, the capabilities allowing the networked items of apparatus to communicate with each other in the network, determine geographic coordinates of the other networked items, and store the information into lookup tables in memory. Determining the position of other networked items of apparatus and storing the information would be useful for fetching items closest to the place where they are needed.

78. As to claim 69, the combination of Tamaru and Yang-Huffman discloses a method according to claim 68, however, the combination of Tamaru and Yang-Huffman does not teach receiving and storing positional coordinates from the mobile and static items of apparatus.

79. Karaoguz discloses a plurality of wireless devices capable of communicating with each other (paragraph [0019], lines 9-17). A user of a device entering a geographic area activates a device locator to identify the available devices (paragraph [0024], lines 1-10). The user device determines its own position (paragraph [0042], lines 1-3) and determines the distance range of available devices and the coordinates of each

Art Unit: 2458

available device it can be in communication with within the distance range (paragraph [0044], lines 1-9). The user device includes memory that can store information such as geographic map, coordinates, and lookup tables (paragraph [0048], lines 7-10).

80. It would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Tamaru and Yang-Huffman by implementing the capabilities of mobile devices as taught by Karaoguz into the networked items of apparatus, the capabilities allowing the networked items of apparatus to communicate with each other in the network, determine geographic coordinates of the other networked items, and store the information into lookup tables in memory. Determining the position of other networked items of apparatus and storing the information would be useful for fetching items closest to the place where they are needed.

81. *Claims 67 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tamaru and Yang-Huffman and Karaoguz, in view of Gunji, U.S. Patent No. 5,926,117, hereinafter Gunji.*

82. As to claim 67, the combination of Tamaru, Yang-Huffman and Karaoguz discloses a method according to claim 66 including a the position table containing the current position coordinates of all communication interfaces within communication range of the management means (paragraph [0044], lines 1-9, from Karaoguz: determine devices in the distance range of a first devices and paragraph [0048], lines 7-10, from Karaoguz: store information such as geographic map, coordinates, and lookup tables in

Art Unit: 2458

memory), the combination of Tamaru, Yang-Huffman and Karaguz does not teach transmitting the position table at the worksite to at least selected networked item of apparatus as well as other networked items of apparatus.

83. Gunji discloses a vehicle control system comprising a group of vehicles each having its own position detecting means and a base station receiving position information of the vehicles (col. 2, lines 38-48) and transmitting the information to specific vehicles (col. 3, lines 2-5). The information transmitted to specific vehicles is used for collision avoiding (col. 6, 2-8).

84. It would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Tamaru, Yang-Huffman and Karaoguz by the teachings of Gunji by having the positional coordinates of networked devices determined and stored in the method described by Tamaru, Yang-Huffman and Karaoguz, be transmitted to other devices in close vicinity as taught by Gunji, in order to implement claim 67. Transmitting positional information of devices to other devices in close vicinity would allow devices to know the position of each other, and avoid collision.

85. As to claim 70, the combination of Tamaru, Yang-Huffman and Karaoguz discloses a method according to claim 69; however, the combination of Tamaru, Yang-Huffman and Karaoguz does not teach relaying the stored positional coordinates to the mobile and static items of apparatus.

Art Unit: 2458

86. Gunji discloses a vehicle control system comprising a group of vehicles each having its own position detecting means and a base station receiving position information of the vehicles (col. 2, lines 38-48) and transmitting the information to specific vehicles (col. 3, lines 2-5). The information transmitted to specific vehicles is used for collision avoiding (col. 6, 2-8).

87. It would have been obvious to a person with ordinary skills in the art at the time of the invention to modify the teachings of Tamaru, Yang-Huffman and Karaoguz by the teachings of Gunji by having the positional coordinates of networked devices determined and stored in the method described by Tamaru, Yang-Huffman and Karaoguz, be transmitted to other devices in close vicinity as taught by Gunji, in order to implement claim 70. Transmitting positional information of devices to other devices in close vicinity would allow devices to know the position of each other, and avoid collision.

Response to Arguments

88. Applicants' amendments and arguments were received on 07/30/2010.

89. Applicants' arguments with respect to claims Claims 29, 32-36, 38-52, 55-70 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Art Unit: 2458

90. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

91. Mallette, U.S. 20030228874 discloses a location-based dynamic addressing network;

92. Allen et al., U.S. 20030114981 discloses tracking position of devices and reporting devices to closest repair person for assistance;

93. Shorty, U.S. 20030109270 discloses discovering other devices within transmission range of a first device;

94. Robinson et al., U.S. Patent No. 7123925 discloses determining position information from a device to neighboring devices;

95. Kageyama, U.S. 20020165645 discloses vehicles exchanging position information.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CATHERINE THIAW whose telephone number is (571)270-1138. The examiner can normally be reached on 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOSEPH AVELLINO can be reached on 571-272-3905. The fax phone

Art Unit: 2458

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. T./
Examiner, Art Unit 2458

08/19/2010

/Joseph E. Avellino/
Supervisory Patent Examiner, Art Unit 2458